

# The subthalamic nucleus : a novel motor-associative- limbic interface

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BEHOREND BIJ HET PROEFSCHRIFT

**The subthalamic nucleus:  
a novel motor-associative-limbic interface**

1. Deep brain stimulation of the subthalamic nucleus has long-lasting beneficial effects on motor disability in patients suffering from advanced Parkinson disease.

*This thesis*

2. Up to half of the subthalamic nucleus-stimulated patients can experience behavioural side-effects including cognitive alterations and affective changes. In approximately 10% of the cases these can be severe.

*This thesis*

3. Modulation of the subthalamic nucleus by electrical stimulation evokes specific changes in motor, cognitive, and affective behaviour in animal models, which depends on the stimulation parameters used.

*This thesis*

4. The upstream connections of the subthalamic nucleus with associative and limbic regions and the recently discovered downstream relation with the midbrain serotonergic neurons possibly underlie the behavioural side-effects of subthalamic nucleus stimulation. This mechanism provides a rational basis for the clinical management of these side-effects.

*This thesis*

5. "Handle tissue as you do people, gently and with respect".

*Peter Donaghy (neurosurgeon)*

6. "A sincere and steadfast concern for the well being of each patient is an incorporated attribute, affecting every aspect of this concept. We must help the patient."

*M. Gazi Yasargil*

7. Discovery consists of seeing what everybody has seen and thinking what nobody has thought.

*Albert von Szent-Gyorgi*

8. "Great minds discuss ideas; Average minds discuss events; Small minds discuss people."

*Anonymous*

9. You may have the most original observation or idea, but as long as you do not publish it, it does not exist.

10. Health insurance companies are becoming stronger and stronger. They do not only determine our practice, but have prestigious buildings with luxurious waiting rooms, and more important, offer free coffee.